

REMARKS

Re-examination and reconsideration of the subject matter identified in caption, pursuant to and consistent with 37 C.F.R. §1.116 and in light of the remarks which follow, are respectfully requested.

Claims 20-31 and 34-40 remain pending in this application with claims 39 and 40 being withdrawn from consideration on the merits.

Claims 20-31 and 34-38 were rejected under 35 U.S.C. §112, first paragraph, for the reasons set forth in paragraph (6) of the Office Action, and under 35 U.S.C. §112, second paragraph, for the reasons set forth in paragraphs (8) and (9) of the Official Action. Withdrawal of these rejections is respectfully requested in view of the following remarks.

The new matter rejection set forth on page 4 of the Office Action raises two issues: support for the added terminology set forth in the first amended paragraph beginning on page 12, line 1, and support for changing "photo-chromic" to --photochemical stable-- in the second amended paragraph beginning on page 12, line 12, of the specification. These issues will be addressed in turn.

The language "molecular ordering of certain organic photochemical substances" is believed to be fully supported on page 12 of the originally filed specification. Note lines 3-5 of the second full paragraph: "certain organic photochemical stable substances...show a much higher degree of induced molecular order..."

Concerning the second issue, Applicants submit that those of ordinary skill in this art would clearly recognize that the word "photo-chromic" was erroneously used. Thus, the present application is concerned with the discovery that photochemical stable substances, i.e., substances that are not *physically or structurally altered* by exposure to light, can be used in light polarizing layers instead of photochromic substances, which are chemically altered on

exposure to light (sometimes irreversibly so). In the sentence before the passage where "photochromic" was replaced by "photochemical stable," reference is made to certain organic photochemical stable substances which show a much higher degree of induced molecular order. Clearly, the following sentence, which includes the words "The molecular order", must be referring to the photochemical stable substances previously mentioned.

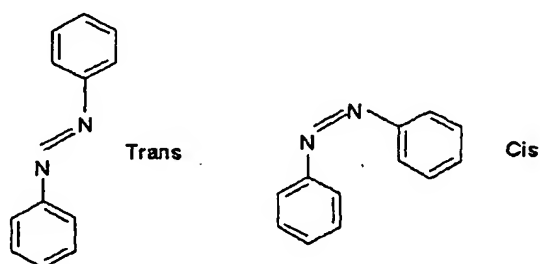
Respectfully, those of ordinary skill, reading the entire second paragraph on page 12, would understand that the use of "photo-chromic" was in error.

Concerning the rejections of claims 20-31 and 34-38 under §112, second paragraph, as set forth on page 3 of the office Action, the following comments are submitted.

The legal standard for definiteness is whether a claim reasonably apprises those of ordinary skill in the art of its scope. See *In re Warmerdam*, 33 F.3d 1354, 1361, 31 U.S.P.Q.2d 1754, 1759 (Fed. Cir. 1994). *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed.Cir.2001). In determining whether this standard is met, the definiteness of the language employed in the claim should be analyzed, not in a vacuum, but in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. *In re Johnson*, 558 F.2d 1008, 1015, 194 U.S.P.Q. 187, 193 (CCPA 1977).

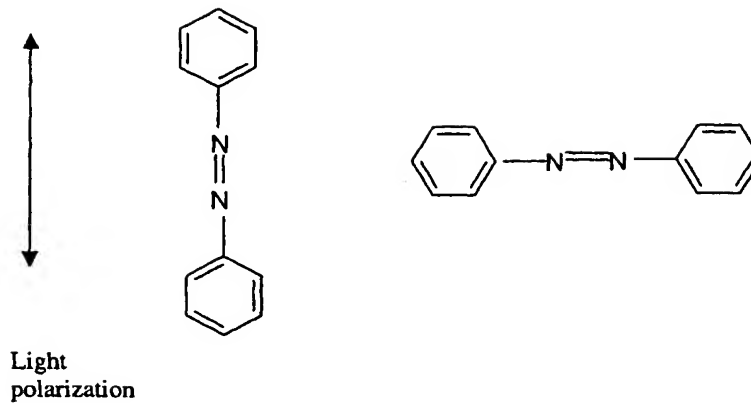
In the rejection, it is alleged to be unclear from the specification how the azodye can be photochemically stable when it "*reacts with light in order to define the absorption axis*". Until the present invention, the formation of photo-induced optical anisotropy in a solid state (called the Weigert mechanism) was performed using *photochemically sensitive* substances which themselves underwent both reversible and irreversible reactions on exposure to light. Such substances undergo actual physical or structural changes (e.g., from cis to trans isomers) and, as mentioned above, some are irreversible. On the other hand, Applicants have

discovered that layers of certain photochemical stable substances (azodyes) are capable of exhibiting photo-induced optical anisotropy on exposure to polarized or non-polarized light, but without undergoing any chemical or structural changes at a molecular level. The light causes spatial reorientation of the molecules and molecular units as a whole. Support for this explanation can be found at page 12, lines 14 to 19, where the invention is compared to the previous methods involving irreversible photochemical reactions. Below are schematic figures comparing the reaction and alignment of photochromic substances as opposed to photochemical stable substances.



The above figure shows a typical structural change of a photochromic molecule on exposure to an appropriate light source (from trans to cis isomer).

In contrast, the following figures show the reaction of a photochemical stable substance upon exposure to polarized light. The molecule itself aligns according to the direction of the light. Thus, no structural change occurs in the molecule.



Based on the above, Applicants respectfully submit that those of ordinary skill in this art, familiar with the present specification and the relevant prior art, would appreciate that a "photochemical stable" azodye is an azodye that does not undergo *molecular or structural* changes on exposure to light.

In view of the above, the §112, first and second paragraph rejections have been obviated and should be withdrawn.

Claims 20-31 and 38 were rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent Document No. JP 10-333154 (Kunihiro) for the reasons set forth in paragraph (12) of the Official Action. Claim 37 was rejected under 35 U.S.C. §103(a) as obvious over Kunihiro '154 for the reasons set forth in paragraph (15) of the Office Action. Reconsideration and withdrawal of these rejections are requested for at least the following reasons.

The present claims specify the use of a photochemically stable azodye, i.e., an azodye which is not chemically or structurally altered upon exposure to actinic radiation. In contrast, the compounds employed in the invention of JP '154 undergo a reversible change in their molecular structure upon optical exposure and are referred to as optically activated molecules. Note paragraph [0018] and [0020] on page 6 of the machine translation. Thus, it

is clear that the azo compounds disclosed in JP '154 must be photochromic, i.e., upon exposure to actinic radiation, they undergo reversible molecular and structural changes.


In view of the foregoing, the §102 and §103 rejections over Kunihiro '154 should be reconsidered and withdrawn. Such action is earnestly solicited.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683 at her earliest convenience.

Respectfully submitted,

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